

PATENT SPECIFICATION



Application Date: Sept. 7, 1932. No. 24,355/32.

402,561

Complete Accepted: Dec. 7, 1933.

COMPLETE SPECIFICATION.

Improvements in or relating to Veneering Presses.

I, ADOLF FRIZ, a German Citizen, of Haldenstrasse 30, Cannstatt, Germany, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to veneering presses of the type in which pressure is applied to the press plates through fixed and moving press beams consisting of at least one girder, the acting pressure being transmitted to the plates through such beams.

In presses of large dimensions, especially hydraulic presses the deflection of the main beam which is unavoidable even if this girder is made of large size, is an undesirable phenomenon. This deflection is known to increase as the cube of the length of the beam.

The deflections which occur in such known presses render them completely unsuitable for many purposes, e.g. for veneering presses in which very thin layers of glue are placed between the leaves of veneer.

It has therefore been attempted in specially large presses to avoid this by arranging the main beam transversely to the length of the press.

Girder presses in which the pressure producing means such as press spindles or hydraulic press cylinders are arranged outside the ground plan of the press plates, have clearly quite special advantages as regards construction and space requirements.

By means of the present invention I have succeeded in making such presses applicable for work in which only a very slight deflection is permissible for example deflections of which the greatest amount is always smaller than the thickness of each glue layer.

According to the invention in presses of the above type pressure is applied to the press plates by means of pressure producing means, the line of action of which lies outside the ground plan of the plates and by means connected with or abutting the press plates at points lying inside the ground plan of the plates.

[Price 1/-]

According to another feature of the invention a press of the above type is constructed in which the line of action of the pressure producing means lies outside the ground plan of the plates by forming the press beams of two longitudinal girders, the pressure producing means acting directly on one girder or set of girders but acting indirectly on the other girder or set of girders lying next to the pressing plates, through mechanical connections which are spaced apart.

According to a further feature of the invention, in presses of the above type in which the line of action of the pressure producing means lies outside the ground plan of the plates, one of the press plates has projections spaced apart, through which it contacts with its carrying base.

According to a still further feature of the invention, in presses of the above type in which the line of action of the pressure producing means lies outside the ground plan of the plates the lower of the beams is supported in the middle, while the upper has pressure applied to the ends.

The invention is more particularly described with reference to the accompanying drawings, in which:—

Figure 1 shows diagrammatically the known arrangement which produces a large deflection.

Figure 2 shows in the same diagrammatic manner an example of a new and more favourable arrangement.

Figure 3 shows an example corresponding to the diagrammatic construction of Fig. 1.

Figure 4 is a side view of Fig. 3.

Figure 5 shows a front view of a press according to the invention.

Figure 6 is a side view of Fig. 5.

Figure 7 shows a front view of a second method of carrying out the invention.

Figure 8 is again a side view of Fig. 7.

Figure 9 is a front view of a third example of carrying out the invention.

Figure 10 is a side view of Fig. 9 partly in vertical section.

It should be explained that in Figs. 3, 5 and 9 both, and in Fig. 7 the upper press plates are omitted.

In Figures 1 and 2 the forces which are exerted by the press spindles, hydraulic cylinders or the like on the press girders are denoted by a and b . c denotes the relatively large deflections occurring in the middle of the girder on pressing, which deflections are cumulative.

In the loading corresponding to the invention, the forces a and b are transmitted to the girders in such a manner at a' and b' on each girder that these girders are stressed in the same way as would be the case if the girder 1 were uniformly loaded and rested on two supports at b' . The deflections c' are then reduced to a relatively small degree which is unobjectionable in the use of the press.

This specially favourable stressing of the girder may be obtained by the arrangement shown diagrammatically in Figs. 5 and 6.

Here d denotes the press spindles or the rams of the press cylinders which are arranged on each end of the press girder within the side frames e of the press.

Within the space in the side frames e , the press spindles or the press cylinder rams d act on cross-pieces f , each of which is fastened at both ends to a longitudinal girder g . The longitudinal girders g are intersected again by cross girders h with which they are united, preferably by welding, and these cross girders are so arranged and so act on the longitudinal girders i lying next to the press plate p which are parallel to the girders g and not directly fastened to them, that the specially favourable deflection conditions diagrammatically shown in Fig. 2 occur.

The press plate p is preferably, though not necessarily, secured to the girders i .

Underneath the material to be pressed the same arrangement is repeated. The longitudinal girders m fastened at their ends in the side frames e act by means of cross girders n arranged at suitable places on the longitudinal girders o in contact with the press plate q , which are parallel to the girders m but not directly connected therewith.

In Figs. 7 and 8 is shown how the second system of longitudinal girders can be replaced by a specially shaped plate p , the positions of the projections q on which is again so chosen that the incidence of the load occurs according to Fig. 2. These plates can be formed of a sufficiently strong cast plate.

The method of carrying out the invention according to Figs. 9 and 10 shows that a sufficiently favourable action can also be obtained if the one press beam, here the upper, consists simply of longitudinal girders g which are fastened at each end to the press spindles and which

have a maximum deflection towards their midlength, whilst underneath, longitudinal girders o are used which, at their midlength only are mechanically connected by means of a cross-piece n with the lower longitudinal girders m fastened at their ends to the side frames e .

The longitudinal girders o can then take up on loading the deflection of the longitudinal girders g so that accordingly their whole length can be pressed sufficiently accurately and uniformly.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A veneering press comprising press plates attached to or supported by fixed and moving press beams consisting of at least one girder, and pressure producing means, in which the pressure is applied to the plates by means of the pressure producing means, the line of action of which lies outside of the ground plan of the plates, and by means connected with or abutting the press plates at points lying inside the ground plan of the plates.

2. A veneering press wherein pressure is applied to the upper press plate through one press beam while the lower is supported on another press beam, by means of pressure producing means, the line of action of which lies outside the ground plan of the plates, and wherein at least one of the beams is formed of two longitudinal girders or sets of longitudinal girders, whilst the pressure producing means acts directly on one girder or set of girders, and indirectly on the other girder or set of girders lying nearest to the press plate, through mechanical connections which are spaced apart.

3. A veneering press as claimed in claim 2 in which the mechanical connections are at two points.

4. A veneering press wherein pressure is applied to one press plate through a press beam consisting of at least one girder, by means of pressure producing means the line of action of which lies outside the ground plan of the plates and wherein the other press plate has projections spaced apart, through which it contacts with its carrying beam.

5. A veneering press wherein pressure is applied to one press plate through an upper press beam consisting of at least one girder, by means of pressure producing means, the line of action of which lies outside the ground plan of the plates, and wherein the lower of the beams is supported in the middle, while the upper has pressure applied at the ends.

6. A veneering press wherein pressure

is applied to one of the press plates through a press beam consisting of at least one girder by means of pressure producing means the line of action of which
5 lies outside the ground plan of the plates, in which the pressure producing means consist of longitudinal girders which are supported by one or more cross girders lying within the ground plan of the
10 plates.

7. A veneering press as claimed in claim 6, in which the cross girder or girders is or are set through one or more sets of longitudinal girders and carries
15 or carry the other set or sets of longitudinal girders.

8. A veneering press as claimed in claims 4, 5 or 6 in which the other press plate is supported or carried by a press
20 beam, which also consists of at least one girder.

9. A veneering press constructed and arranged to operate substantially as described with reference to the accompanying
25 drawings.

Dated this 31st day of August, 1932.

W. P. THOMPSON & Co.,
12, Church Street, Liverpool, 1,
Chartered & Registered Patent Agents.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1933.

Fig. 1.

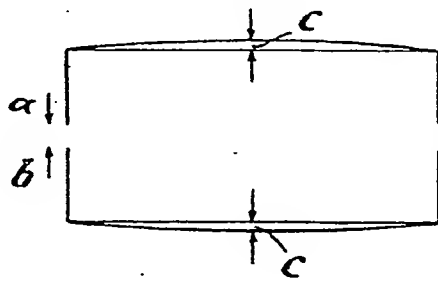


Fig. 2.

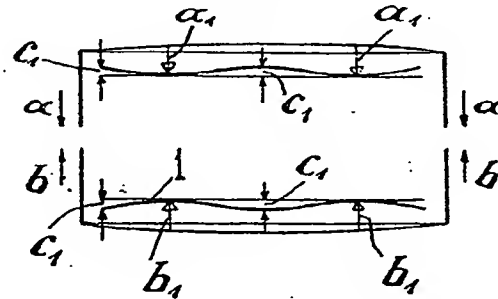


Fig. 3.

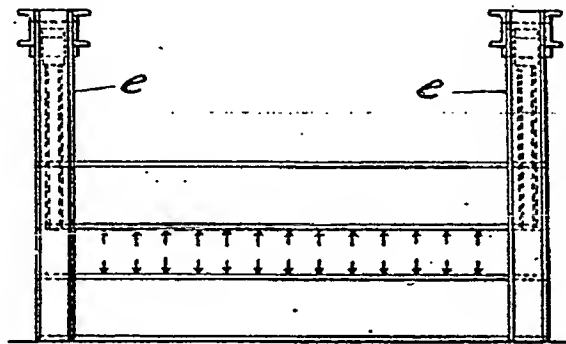


Fig. 4.

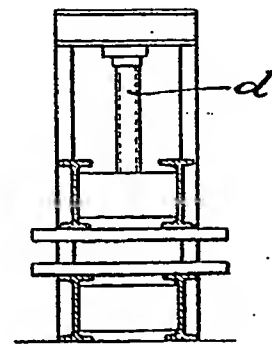


Fig. 5.

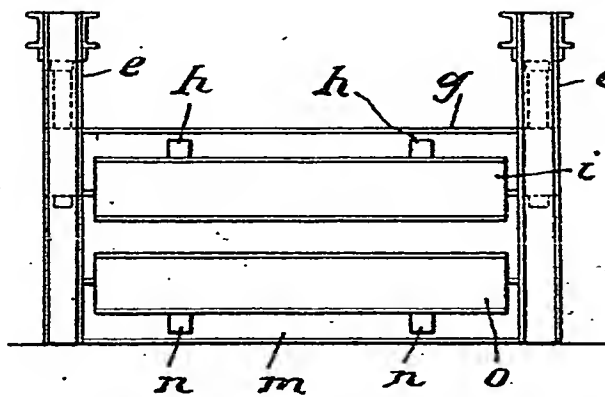
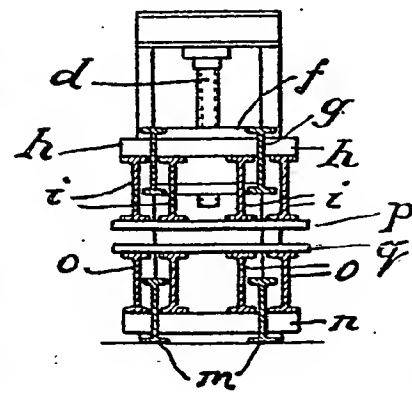
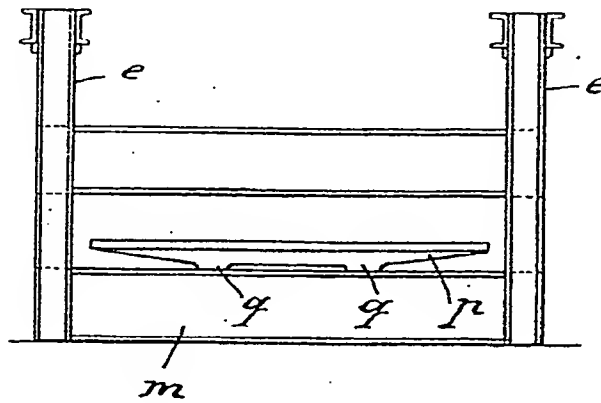
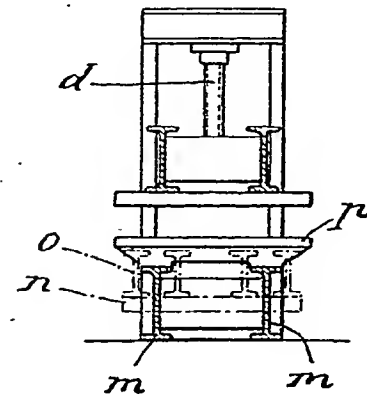
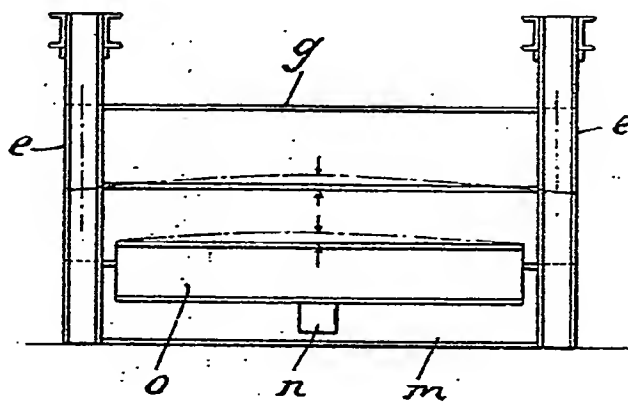
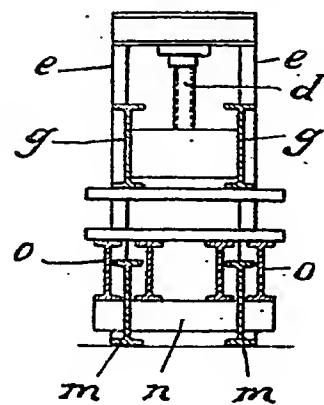


Fig. 6.



[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 7.Fig. 8.Fig. 9.Fig. 10.

402,561 COMPLETE SPECIFICATION

SHEET 1

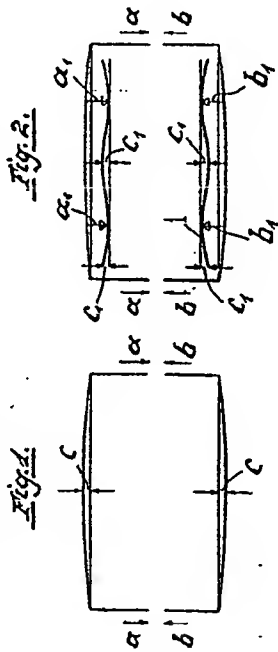


Fig. 3.

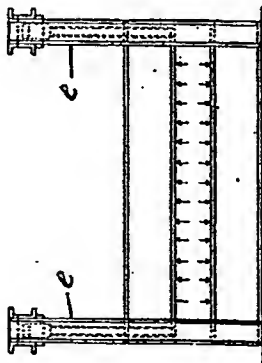


Fig. 4.

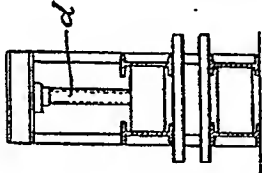


Fig. 5.

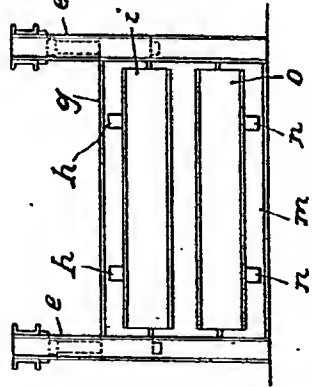


Fig. 6.

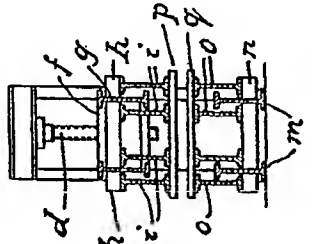


Fig. 7.

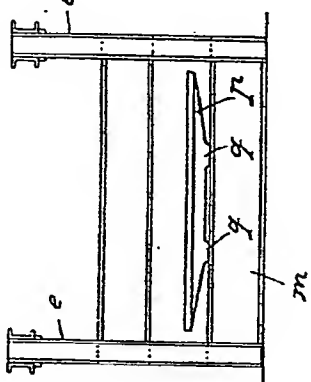


Fig. 8.

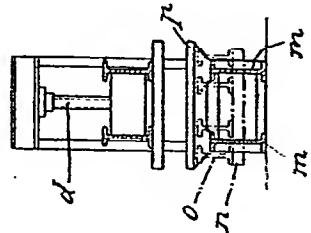


Fig. 9.

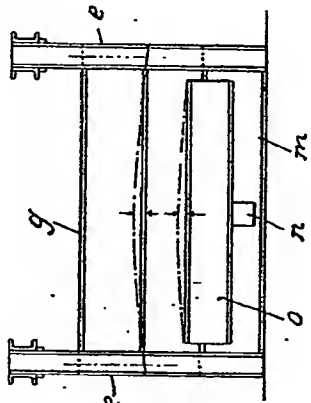
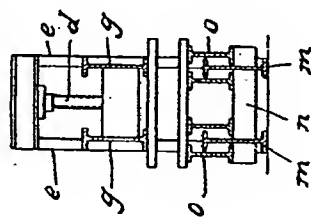


Fig. 10.



[This Drawing is a reproduction of the Original on a reduced scale.]

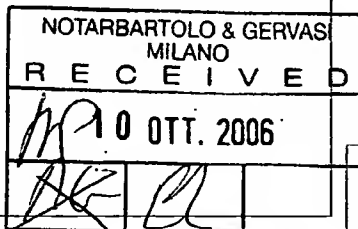
PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

GERVASI, Gemma
NOTARBARTOLO & GERVASI S.P.A.
Corso di Porta Vittoria, 9
I-20122 Milano
ITALIE



NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(PCT Rule 71.1)

Date of mailing
(day/month/year) 06.10.2006

Applicant's or agent's file reference
4993PTWO/AG/1a

IMPORTANT NOTIFICATION

International application No.
PCT/EP2005/052388

International filing date (day/month/year)
25.05.2005

Priority date (day/month/year)
25.05.2004

Applicant
S.I.P.A. SOCIETA INDUSTRIALIZZAZIONE... et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary report on patentability and its annexes, if any, established on the international application:

2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.

3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 4993PTWO/AG/1a	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/EP2005/052388	International filing date (day/month/year) 25.05.2005	Priority date (day/month/year) 25.05.2004	
International Patent Classification (IPC) or national classification and IPC INV. B29C45/17			
Applicant S.I.P.A. SOCIETA INDUSTRIALIZZAZIONE... et al.			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 7 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> sent to the applicant and to the International Bureau a total of 1-3 sheets, as follows:</p> <p style="margin-left: 40px;"><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p style="margin-left: 40px;"><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 20.03.2006		Date of completion of this report 06.10.2006	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized officer Kujat, Christian Telephone No. +49 89 2399-2360	



INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITYInternational application No.
PCT/EP2005/052388

IAP12 Rec'd PCT/PTO 22 NOV 2006

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
- ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-9 as originally filed

Claims, Numbers

1-8 filed with telefax on 19.06.2006

Drawings, Sheets

1/4-4/4 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2005/052388

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-8
	No: Claims	
Inventive step (IS)	Yes: Claims	1-8
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2005/052388

IAP12 Rec'd PCT/PTO 22 NOV 2006

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: DE 196 08 135 A1 (HEMSCHIEDT MASCHINENTECHNIK SCHWERIN GMBH & CO
I. GES.VOLLSTR., 19061) 4 September 1997 (1997-09-04)
D2: US-A-3 302 556 (DURBIN STANLEY H) 7 February 1967 (1967-02-07)
D3: US-A-6 027 329 (NAZARIAN ET AL) 22 February 2000 (2000-02-22)
D4: US-A-4 726 754 (BREUKER ET AL) 23 February 1988 (1988-02-23)

1. The novelty objections based on documents D1 to D3 are not maintained for the following reasons:
 - 1.1 While D1 discloses "Fahrtrieb 5 über Arbeitszylinder" (column 3, lines 33 and 34), that document is quiet about the actual configuration of "Fahrtrieb 5" which is considered the first actuators within the meaning of claim 1. Therefore, the subject-matter of independent apparatus claim 1 differs from the disclosure of D1 by the features of its characterizing part.
 - 1.2 Document D2 only discloses a hydraulic cylinder (figure 1, below reference numeral "G", referred to as "underdriven") as single first actuator with a single first actuator pushing area in the centre of "slide G".
 - 1.3 Document D3 discloses "hydraulic mechanisms 22" (figure 1) as first actuators within the meaning of claim 1. D3 further discloses that the narrow portion "peripheral sidewall 39" (figure 4) extends between and substantially not beyond the projections of the first actuator pushing areas (see connection between "hydraulic cylinders 22" and "movable platen 14" in figure 1). However, the projections of these first actuator pushing areas are outside the at least two second actuator pushing areas "aperture 60" (see figure 1). Therefore, the subject-matter of independent apparatus claim 1 differs from the disclosure of D3 in that the projections of the first actuator pushing areas are between the at least two second actuator pushing areas.

2. The present application meets the criteria of Article 33(1) PCT, because the subject-matter of **claim 1 is new** in the sense of Article 33(2) PCT:
- 2.1 The document **D4** discloses (the references in parentheses applying to this document) a moulding press (title) comprising a mould holding cross member ("base 12", "lower booking plate 54") and a press bed ("movable platen 44"), where the mould holding cross member and the press bed are mobile with respect to each other (by means of "clamp cylinders 58, 60") and each suitable to fix on itself at least a part of a mould (column 2, lines 45-46 and 56-57) and to close together said mould (implicit feature of reaction injection moulding);
- first actuators ("clamp cylinder assemblies 58,60") applying compression forces in at least two first actuator pushing areas (reference numeral 82 in figure 2) of said press bed substantially distinct (they are on opposite sides) from each other, so as to close the mould between the press bed and the mould holding cross member; whereby said cross member comprises:
- at least two cross member actuating ends (outer ends of "base 12") each of which comprises a second actuator pushing area ("tie bar support column 90") in which at least one (figure 2: four) suitable cross member actuator ("tie bar 24") can be connected so as to apply a mould closing force on the cross member (configuration of D4 is identical to that in the application in suit),
 - a support base ("lower booking plate 54") located in a more protruding position (see figure 1), according to the mould closing direction; with respect to the cross member actuating ends and suitable to transfer to the mould the compression force applied on the cross member actuating ends (configuration of D4 is identical to that in the application in suit),
 - a narrow portion (see reference numerals 56 and 57 in figure 1) interposed, according to the mould closing direction, between the at least two cross member actuating ends and the support base (see figure 1) and suitable to transfer to the support base the compression force applied on the at least two cross member actuating ends (configuration of D4 is identical to that in the application in suit), where each cross member actuating end protrudes, according to a direction normal to the mould closing direction (horizontal direction in figure 1), beyond the narrow portion (see figure 1),

wherein

- the projections of the first actuator pushing areas are between the at least two second actuator pushing areas (See figure 2: The line linking the two "platten plates 82" lies between the line linking the two upper tie bars and the line linking the two lower tie bars.);
- the narrow portion extends between (see figure 1) and substantially not beyond (see figure 1) the projections of the first actuator pushing areas.

2.2 The subject-matter of independent claim 1 differs from the disclosure of document D4 in that the support base extends, in horizontal projection, at least as far as the projections of the first two actuator pushing areas of the press bed (feature 1); in that a part of the support base between the projections of the first two actuator pushing areas of the press bed is substantially more rigid, with respect to the bending due to the pressure forces exchanged between the mould and the cross member, than the rest of the mould support base (feature 2); and in that the support base comprises one or more wings or extensions which are prolonged like projecting shelves towards the two ends of the cross member (feature 3).

2.3 The general problem solved by the present invention is obtaining a pressure distribution represented by a curve with an approximately concave-convex shape with two fairly flat maximum areas corresponding to the projections of the hinging areas of the levers of the double toggle on the press bed and a minimum area in the centre so that the pressure in the various areas of the mould are generally more uniform. See e.g. figure 14.

That problem is neither mentioned nor rendered obvious by document D4, since D4 is completely silent about the pressure distribution and only vaguely refers to "little or no deflection" of the moulding press (column 3, lines 3 and 4).

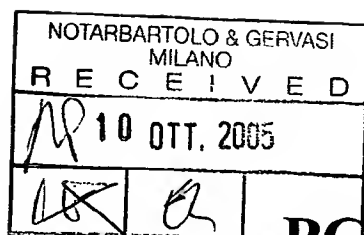
2.4 In addition to that, feature 1 is not disclosed in D4, since the support base in D4 extends, in horizontal projection, not as far as the projections of the first two actuator pushing areas of the press bed. Compare the dimensions of "lower booking plate 54" in figure 1 to the first actuators "clamp cylinder assemblies 58, 60". Therefore, inventive skill needs to be exerted in order to extend the support at least as far as the projections of the first two actuator pushing areas of the press bed.

- 2.5 Claims 2 to 8 are dependent on claim 1 and as such also meet the requirements of the PCT with respect to novelty and inventive step.

Re Item VII

Certain defects in the international application

3. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1 to D4 is not mentioned in the description, nor are these documents identified therein.



PATENT COOPERATION TREATY

PCT/EP2005/052388

From the INTERNATIONAL BUREAU

To:

CINQUANTINI, Bruno
NOTARBARTOLO & GERVASI S.p.A.
Corso di Porta Vittoria 9
I-20122 MILAN
ITALIE

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

Date of mailing (day/month/year) 30 September 2005 (30.09.2005)	
Applicant's or agent's file reference 4993PTWO/er	IMPORTANT NOTIFICATION
International application No. PCT/EP2005/052388	International filing date (day/month/year) 25 May 2005 (25.05.2005)
International publication date (day/month/year)	Priority date (day/month/year) 25 May 2004 (25.05.2004)
Applicant S.I.P.A. Società Industrializzazione Progettazione e Automazione S.p.A. et al	

1. By means of this Form, which replaces any previously issued notification concerning submission or transmittal of priority documents, the applicant is hereby notified of the date of receipt by the International Bureau of the priority document(s) relating to all earlier application(s) whose priority is claimed. Unless otherwise indicated by the letters "NR", in the right-hand column or by an asterisk appearing next to a date of receipt, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).
2. (If applicable) The letters "NR" appearing in the right-hand column denote a priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.
3. (If applicable) An asterisk (*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b) (the priority document was received after the time limit prescribed in Rule 17.1(a) or the request to prepare and transmit the priority document was submitted to the receiving Office after the applicable time limit under Rule 17.1(b)). Even though the priority document was not furnished in compliance with Rule 17.1(a) or (b), the International Bureau will nevertheless transmit a copy of the document to the designated Offices, for their consideration. In case such a copy is not accepted by the designated Office as the priority document, Rule 17.1(c) provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

Priority datePriority application No.Country or regional Office
or PCT receiving OfficeDate of receipt
of priority document

25 May 2004 (25.05.2004)

RM2004A000259

IT

27 September 2005 (27.09.2005)

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

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From the INTERNATIONAL BUREAU

PCT

SECOND AND SUPPLEMENTARY NOTICE
INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION (TO DESIGNATED OFFICES
WHICH APPLY THE 30 MONTH TIME
LIMIT UNDER ARTICLE 22(1))

(PCT Rule 47.1(c))

To:

CINQUANTINI, Bruno
NOTARBARTOLO & GERVASI S.p.A.
Corso di Porta Vittoria 9
I-20122 MILAN
ITALIE

NOTARBARTOLO & GERVASI
MILANO
R E C E I V E D

4 OTT. 2006

Date of mailing (day/month/year)

28 September 2006 (28.09.2006)

Applicant's or agent's file reference

4993PTWO/er

IMPORTANT NOTICE

International application No.

PCT/EP2005/052388

International filing date (day/month/year)

25 May 2005 (25.05.2005)

Priority date (day/month/year)

25 May 2004 (25.05.2004)

Applicant

S.I.P.A. SOCIETÀ INDUSTRIALIZZAZIONE PROGETTAZIONE E AUTOMAZIONE S.p.A. et al

- ATTENTION:** For any designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002 (30 months from the priority date), does not apply, please see Form PCT/IB/308(First Notice) issued previously.
- Notice is hereby given that the following designated Office(s), for which the time limit under Article 22(1), as in force from 1 April 2002, does apply, has/have requested that the communication of the international application, as provided for in Article 20, be effected under Rule 93bis.1. The International Bureau has effected that communication on the date indicated below:
08 December 2005 (08.12.2005)

AU, AZ, BY, CN, CO, DZ, EP, HU, KG, KP, KR, MD, MK, MZ, NA, NG, PG, RU, SY, TM, US

In accordance with Rule 47.1(c-bis)(i), those Offices will accept the present notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

- The following designated Offices, for which the time limit under Article 22(1), as in force from 1 April 2002, does apply, have not requested, as at the time of mailing of the present notice, that the communication of the international application be effected under Rule 93bis.1 :

AE, AG, AL, AM, AP, AT, BA, BB, BG, BR, BW, BZ, CA, CR, CU, CZ, DE, DK, DM, EA, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, ID, IL, IN, IS, JP, KE, KM, KZ, LC, LK, LR, LS, LT, LV, MA, MG, MN, MW, MX, NI, NO, NZ, OA, OM, PH, PL, PT, RO, SC, SD, SG, SK, SL, SM, TJ, TN, TR, TT, UA, UZ, VC, VN, YU, ZA, ZW

In accordance with Rule 47.1(c-bis)(ii), those Offices accept the present notice as conclusive evidence that the Contracting State for which that Office acts as a designated Office does not require the furnishing, under Article 22, by the applicant of a copy of the international application.

4. TIME LIMITS for entry into the national phase

For the designated or elected Office(s) listed above, the applicable time limit for entering the national phase will, subject to what is said in the following paragraph, be **30 MONTHS** from the priority date.

In practice, time limits other than the 30-month time limit will continue to apply, for various periods of time, in respect of certain of the designated or elected Office(s) listed above. For regular updates on the applicable time limits (30 or 31 months, or other time limit), Office by Office, refer to the *PCT Gazette*, the *PCT Newsletter* and the *PCT Applicant's Guide*, Volume II, National Chapters, all available from WIPO's Internet site, at <http://www.wipo.int/pct/en/index.html>.

It is the applicant's sole responsibility to monitor all these time limits.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Yolaine Cussac

Facsimile No. +41 22 338 82 70

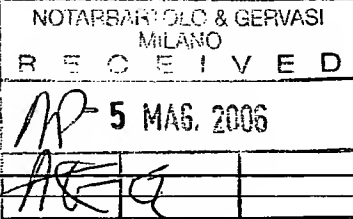
e-mail: pt11@wipo.int

From the INTERNATIONAL BUREAU

PCTINFORMATION CONCERNING ELECTED
OFFICES NOTIFIED OF THEIR ELECTION

(PCT Article 31(7) and Rule 61.3)

To:

CINQUANTINI, Bruno
NOTARBARTOLO & GERVASI S.p.A.
Corso di Porta Vittoria 9
I-20122 MILAN
ITALIE

Date of mailing (day/month/year) 27 April 2006 (27.04.2006)		
Applicant's or agent's file reference 4993PTWO/er		
IMPORTANT INFORMATION		
International application No. PCT/EP2005/052388	International filing date (day/month/year) 25 May 2005 (25.05.2005)	Priority date (day/month/year) 25 May 2004 (25.05.2004)
Applicant S.I.P.A. SOCIETÀ INDUSTRIALIZZAZIONE PROGETTAZIONE E AUTOMAZIONE S.p.A. et al		

- The applicant is hereby informed that the International Bureau has, according to Article 31(7), notified each of the following Offices of its election:
EP: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR
National: BG, CA, CN, CZ, DE, JP, KM, KP, KR, MN, NG, NO, PL, RO, RU, SK, SM, US
- The following Offices have waived the requirement for the notification of their election; the notification will be sent to them by the International Bureau only upon their request:
AP: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW
EA: AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
OA: BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
National: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BR, BW, BY, BZ, CH, CO, CR, CU, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MW, MX, MZ, NA, NI, NZ, OM, PG, PH, PT, SC, SD, SE, SG, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW
- Since the election(s) was (were) made after the expiration of 19 months from the priority date, the applicant is reminded that he must, subject to the following paragraph, enter the national phase within 20 months from the priority date (or later in some Offices) before some of the designated Offices in respect of which Article 22(1), as modified with effect of 1 April 2002, does not apply, by paying the national fees and furnishing, if prescribed, a translation of the international application.

However, in respect of most other designated Offices, the time limit of 30 months (or later) may nevertheless apply. See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters, the *PCT Newsletter* and the WIPO Internet site, updated regularly.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Yolaine Cussac
Facsimile No. +41 22 740 14 35	Facsimile No. +41 22 338 70 80

INTERNATIONAL SEARCH REPORT

In Application No
PCT/EP2005/052388A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B29C45/17 B30B15/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B29C B30B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 196 08 135 A1 (HEMSCHIEDT MASCHINENTECHNIK SCHWERIN GMBH & CO I. GES.VOLLSTR., 19061) 4 September 1997 (1997-09-04) column 4, line 14 -- line 23 column 4, line 55 - line 57 -----	1-5, 9, 10
X	US 3 302 556 A (DURBIN STANLEY H) 7 February 1967 (1967-02-07) figure 3 -----	1-5, 9, 10
X	US 6 027 329 A (NAZARIAN ET AL) 22 February 2000 (2000-02-22) figure 1 -----	1-5, 9, 10
A	US 4 726 754 A (BREUKER ET AL) 23 February 1988 (1988-02-23) figure 1 ----- -/-	1-12

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

31 August 2005

Date of mailing of the international search report

21/09/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Kujat, C

INTERNATIONAL SEARCH REPORT

In
at Application No
PCT/EP2005/052388

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
DE 19608135	A1	04-09-1997	WO	9731770 A1	04-09-1997
US 3302556	A	07-02-1967	DE GB	1577159 A1 1139189 A	05-03-1970 08-01-1969
US 6027329	A	22-02-2000	AU WO	6458498 A 9841380 A1	12-10-1998 24-09-1998
US 4726754	A	23-02-1988	NONE		
JP 2002067113	A	05-03-2002	NONE		
JP 06155510	A	03-06-1994	NONE		
GB 402561	A	07-12-1933	NONE		

INTERNATIONAL SEARCH REPORT

Int

d Application No

PCT/EP2005/052388

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 067113 A (MITSUBISHI HEAVY IND LTD), 5 March 2002 (2002-03-05) abstract	1-12
A	PATENT ABSTRACTS OF JAPAN vol. 018, no. 474 (M-1668), 5 September 1994 (1994-09-05) & JP 06 155510 A (TOSHIBA CORP), 3 June 1994 (1994-06-03) abstract	1-12
A	GB 402 561 A (ADOLF FRIZ) 7 December 1933 (1933-12-07) figure 7	1-12

Box No. VIII (iv) DECLARATION: INVENTORSHIP (only for the purposes of the designation of the United States of America)
The declaration must conform to the following standardized wording provided for in Section 214; see Notes to Boxes Nos. VIII, VIII (i) to (v) (in general) and the specific Notes to Box No. VIII (iv). If this Box is not used, this sheet should not be included in the request.

**Declaration of inventorship (Rules 4.17(iv) and 51bis.1(a)(iv))
 for the purposes of the designation of the United States of America:**

I hereby declare that I believe I am the original, first and sole (if only one inventor is listed below) or joint (if more than one inventor is listed below) inventor of the subject matter which is claimed and for which a patent is sought.

This declaration is directed to the international application of which it forms a part (if filing declaration with application).

This declaration is directed to international application No. PCT/ .. EP2005/052388 (if furnishing declaration pursuant to Rule 26ter).

I hereby declare that my residence, mailing address, and citizenship are as stated next to my name.

I hereby state that I have reviewed and understand the contents of the above-identified international application, including the claims of said application. I have identified in the request of said application, in compliance with PCT Rule 4.10, any claim to foreign priority, and I have identified below, under the heading "Prior Applications," by application number, country or Member of the World Trade Organization, day, month and year of filing, any application for a patent or inventor's certificate filed in a country other than the United States of America, including any PCT international application designating at least one country other than the United States of America, having a filing date before that of the application on which foreign priority is claimed.

Prior Applications: .. Italy .. No. .. RM2004A000259 .. filed on .. 25. May .. 2004 ..

I hereby acknowledge the duty to disclose information that is known by me to be material to patentability as defined by 37 C.F.R. § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the PCT international filing date of the continuation-in-part application.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Name: Fabio TOGNON

Residence: COLBERTALDO DI VIDOR - ITALY
 (city and either US state, if applicable, or country)

Mailing Address: Via Martiri 26 - 31020 COLBERTALDO DI VIDOR - ITALY

Citizenship: Italian

Inventor's Signature: Tognon Fabio
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 21 June 2005
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

Name: Davide COLLA

Residence: ISTRANA - ITALY
 (city and either US state, if applicable, or country)

Mailing Address: Via Milano 5 - 31036 ISTRANA - ITALY

Citizenship: Italian

Inventor's Signature: Colla Davide
 (if not contained in the request, or if declaration is corrected or added under Rule 26ter after the filing of the international application. The signature must be that of the inventor, not that of the agent)

Date: 21 June 2005
 (of signature which is not contained in the request, or of the declaration that is corrected or added under Rule 26ter after the filing of the international application)

☒ This declaration is continued on the following sheet, "Continuation of Box No. VIII (iv)".

Sheet No.

Continuation of Box No. VIII (i) to (v) DECLARATION

If the space is insufficient in any of Boxes Nos. VIII (i) to (v) to furnish all the information, including in the case where more than two inventors are to be named in Box No. VIII (iv), in such case, write "Continuation of Box No. VIII ..." (indicate the item number of the Box) and furnish the information in the same manner as required for the purposes of the Box in which the space was insufficient. If additional space is needed in respect of two or more declarations, a separate continuation box must be used for each such declaration. If this Box is not used, this sheet should not be included in the request.

CONTINUATION OF BOX NO. VIII (iv) DECLARATION: INVENTORSHIP

Name: Matteo ZOPPAS

Residence: CONEGLIANO - ITALY
(city and either US state, if applicable, or country)

Mailing Address: Via XX Settembre 122 - 31015 CONEGLIANO - ITALY

Citizenship: Italian

Inventor's Signature: *Matteo Zoppas*

Date: 21 June 2005

Name:

Residence:
(city and either US state, if applicable, or country)

Mailing Address:

Citizenship:

Inventor's Signature:

Date:

Name:

Residence:
(city and either US state, if applicable, or country)

Mailing Address:

Citizenship:

Inventor's Signature:

Date: